Ahrens, Jr. et al.
Data Processing System, Method, and Product for
Automatically Tracking Insertions of Integrated Circuit Devices
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APPROVED
BY
DRAFTSMAN

CLASS SUBCLASS

FIG. 1

FIG. 3

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FIG. 2

100
DATA PROCESSING
SYSTEM

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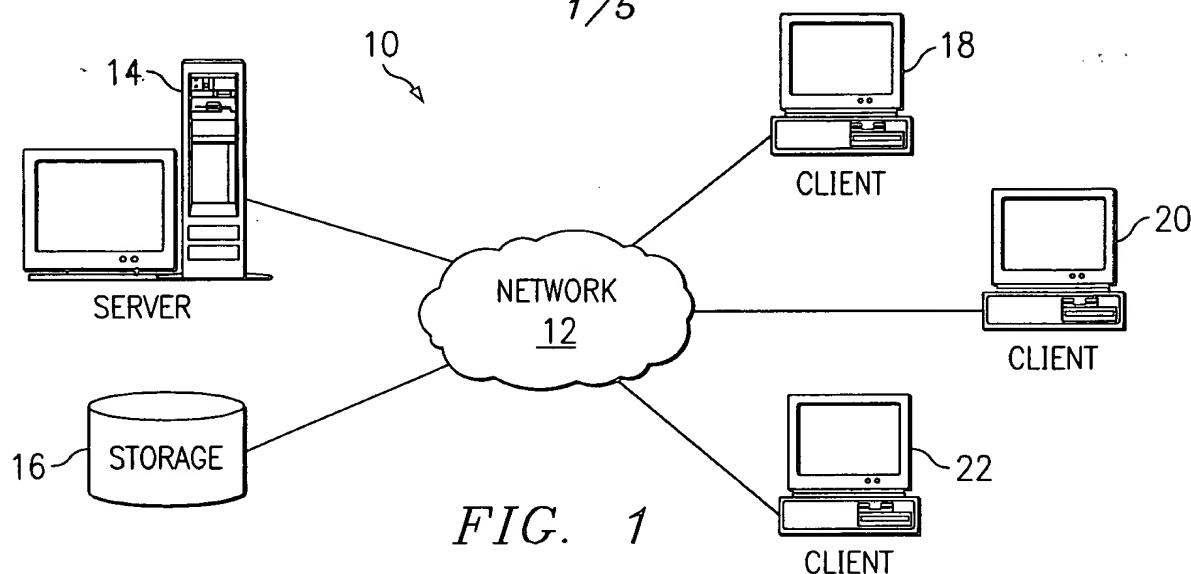Automatically Tracking Insertions of Integrated Circuit Devices
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FIG. 4
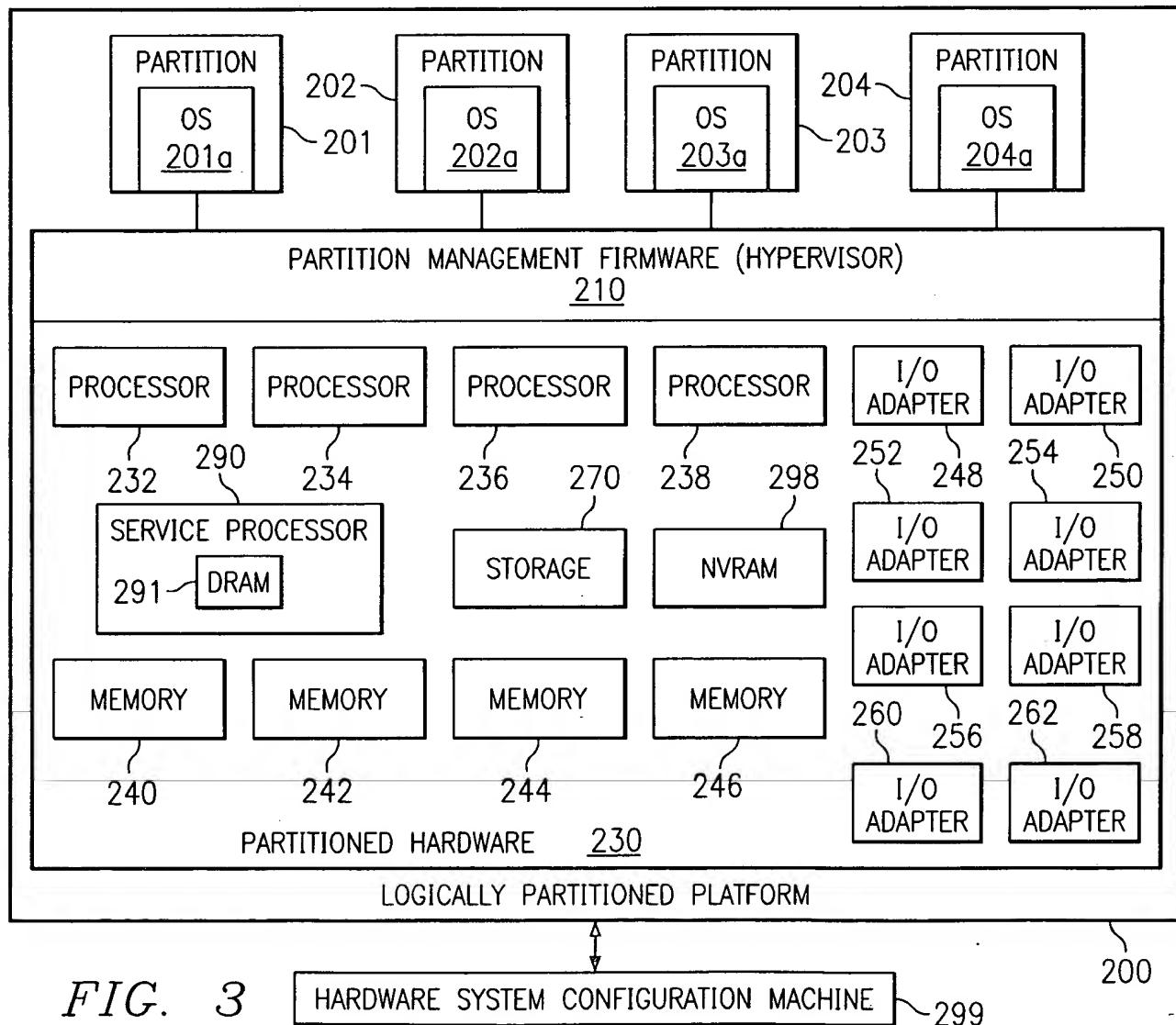
400 — START

402 — ESTABLISH AN INSERTION COUNT FIELD IN VITAL PRODUCT DATA FOR EACH MCM ASSEMBLY

404 — ESTABLISH A FAULT FIELD FOR EACH CACHE MCM ASSEMBLY IN THE CACHE VITAL PRODUCT DATA

406 — TRACK NUMBER OF INSERTIONS OF EACH MCM ASSEMBLY DURING MANUFACTURING PROCESS

408 — STORE THE NUMBER OF INSERTIONS IN THE APPROPRIATE FIELDS IN THE APPROPRIATE VPD'S

410 — COLLECT ALL INSERTION INFORMATION FOR ALL VPD'S AND STORE AS CONFIGURATION DATA

412 — STOP

600

FIG. 6

MCM ASSEMBLY NAME	LOCATION CODE	NUMBER OF TIMES INSERTED	OTHER FILEDS
PROCESSOR 1-8	U1.3-P1-C1	2	
PROCESSOR 9-16	U1.3-P1-C2	7	

602 { PROCESSOR 1-8
604 { PROCESSOR 9-16

MCM ASSEMBLY NAME	LOCATION CODE	NUMBER OF TIMES INSERTED	FAULT	OTHER FILEDS
L3 MODULE 1	U1.3-P1-C5	3	0	
L3 MODULE 15	U1.3-P1-C19	10	1	
L3 MODULE 16	U1.3-P1-C19	1	0	

606 {

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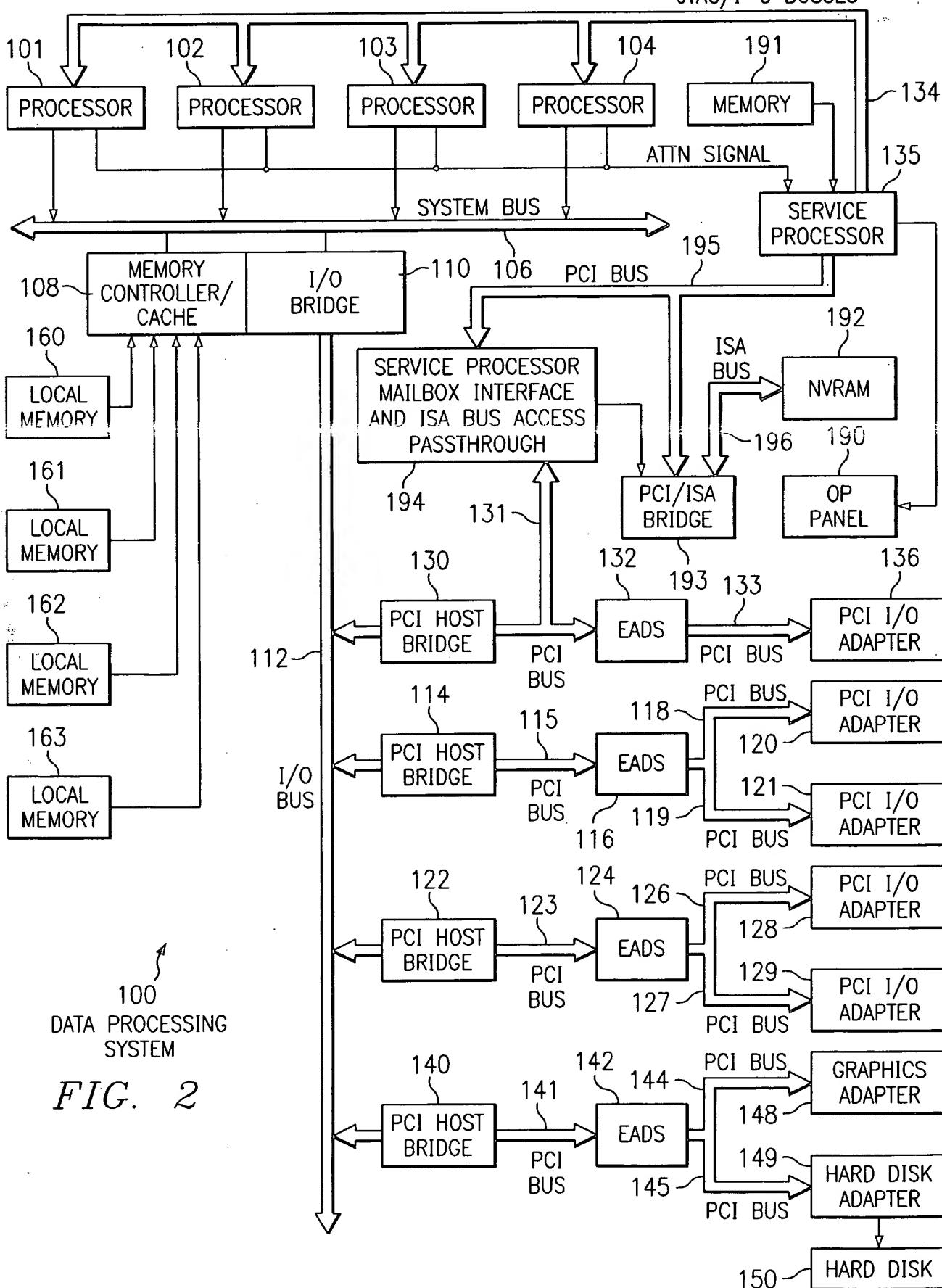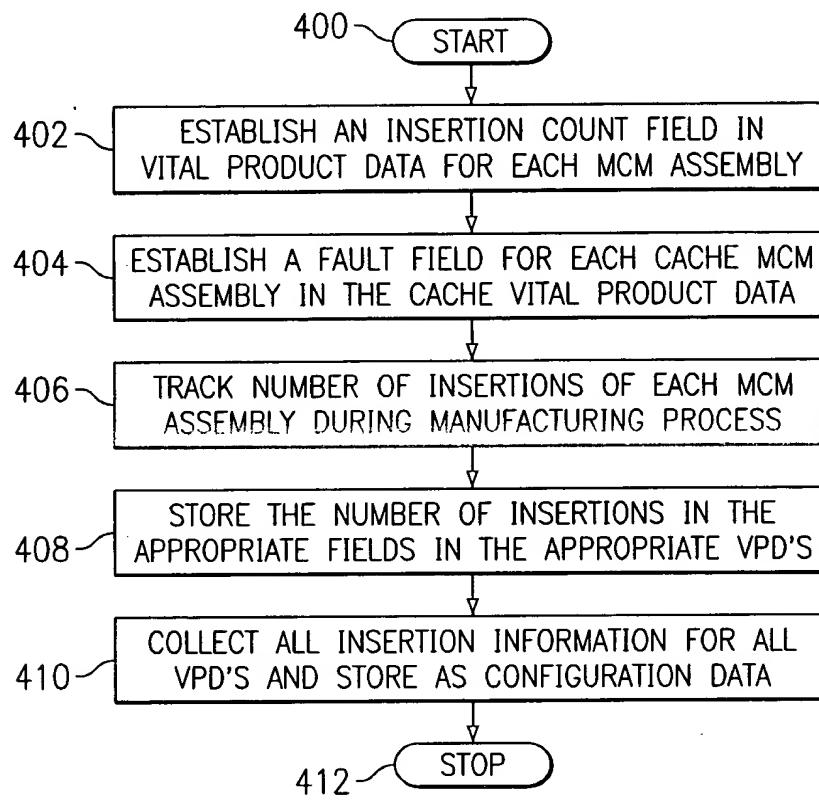Automatically Tracking Insertions of Integrated Circuit Devices
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START ─ 500
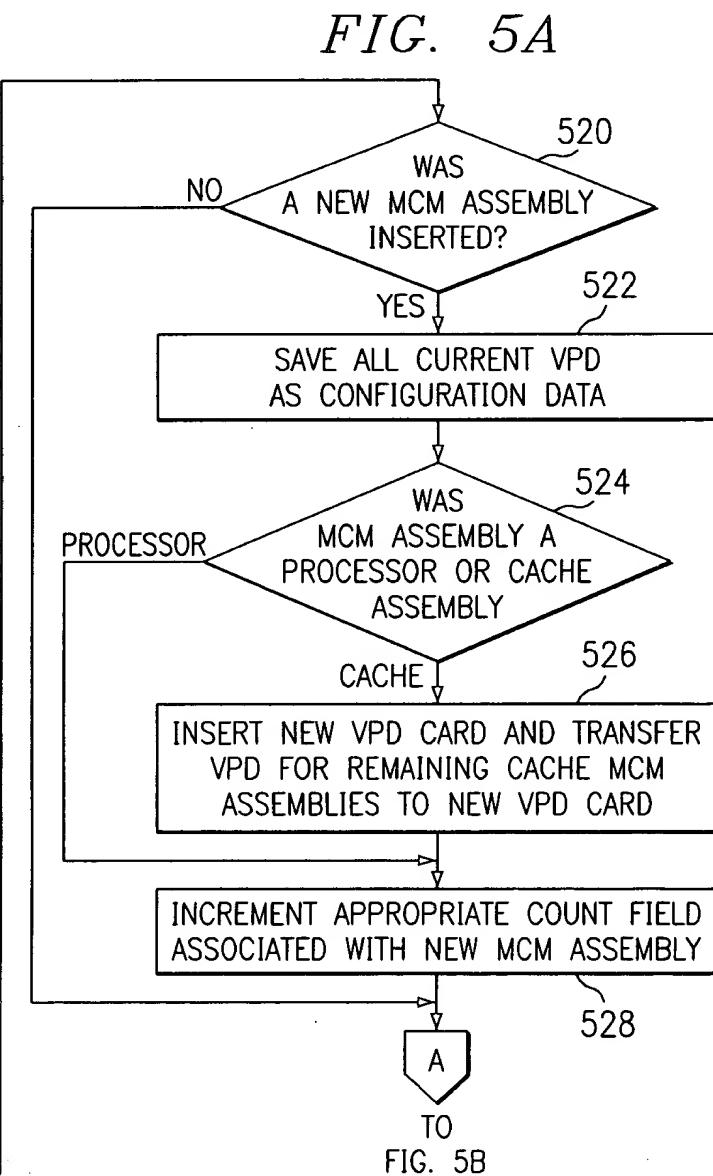
502

COMPUTER SYSTEM IN STANDBY
MODE RECEIVING STANDBY POWER

504

INVOKE MENU
TO UPDATE INSERTION
INFORMATION?

NO

YES

506

RECEIVE UPDATE TO
INSERTION INFORMATION

SERVICE PROCESSOR
CONTINUOUSLY MONITORS
PRESENCE DETECTION PINS
FOR EACH PLANAR LOCATION

510   508

NO   INSERTION
       DETECTED?

512   YES

IDENTIFY PLANAR LOCATION
INTO WHICH AN MCM
ASSEMBLY WAS INSERTED

INCREMENT INSERTION COUNT
FIELD IN VPD THAT IS
ASSOCIATED WITH MCM ASSEMBLY
WHICH WAS INSERTED INTO
IDENTIFIED PLANAR LOCATION

514

POWER
ON REQUEST
RECEIVED?

NO

516   YES   518

READ VPD ASSOCIATED
WITH EACH MCM ASSEMBLY
AND COMPARE TO STORED
CONFIGURATION DATA

FIG. 5A

520

NO   WAS
       A NEW MCM ASSEMBLY
       INSERTED?

YES   522

SAVE ALL CURRENT VPD
AS CONFIGURATION DATA

524

WAS
MCM ASSEMBLY A
PROCESSOR OR CACHE
ASSEMBLY

PROCESSOR

CACHE   526

INSERT NEW VPD CARD AND TRANSFER
VPD FOR REMAINING CACHE MCM
ASSEMBLIES TO NEW VPD CARD

INCREMENT APPROPRIATE COUNT FIELD
ASSOCIATED WITH NEW MCM ASSEMBLY

528

A

TO
FIG. 5B

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FROM
FIG. 5A
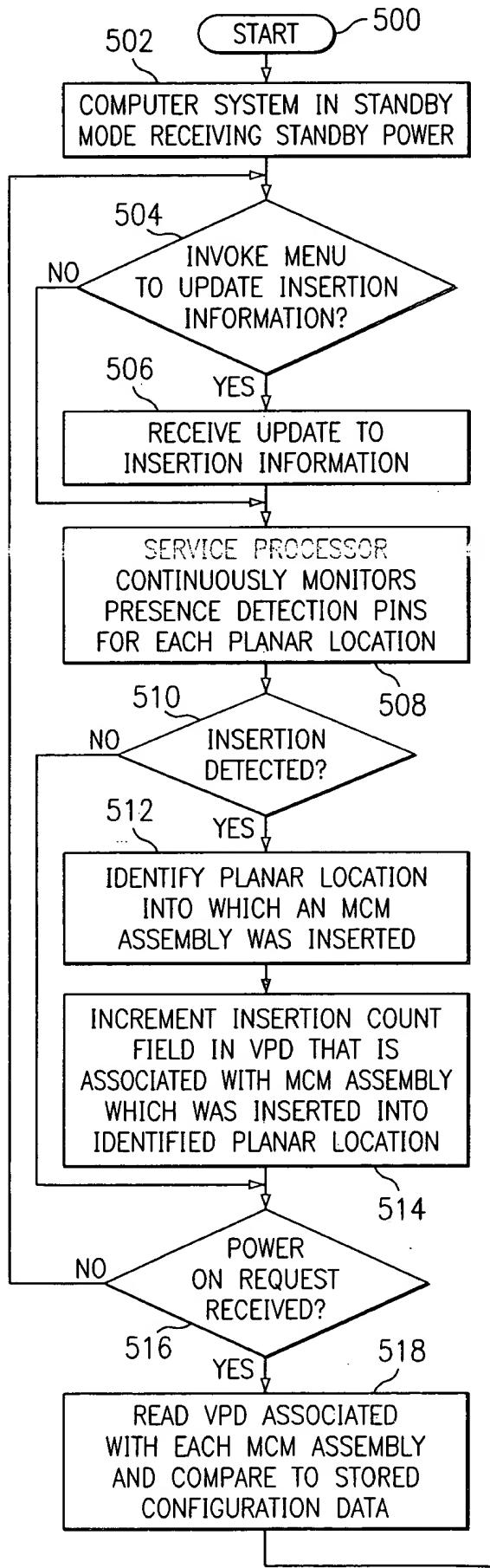
A

530 — HAS
COUNT THRESHOLD
BEEN EXCEEDED FOR   NO
AN INSERTED MCM
ASSEMBLY?

YES

532 — SERVICE PROCESSOR GENERATES AN
ERROR MESSAGE INCLUDING AN ERROR
CODE AND LOCATION OF INSERTED MCM
ASSEMBLY THAT EXCEEDED THRESHOLD

534 — IS
INSERTED MCM
ASSEMBLY A PROCESSOR   PROCESSOR
OR CACHE
MODULE?

CACHE

536 — STORE IDENTIFIER INFORMATION INTO
APPROPRIATE FIELD IN VPD TO IDENTIFY THE
PARTICULAR CACHE MCM ASSEMBLY AT FAULT

538 — CONTINUE NORMAL BOOT TO OPERATING SYSTEM

540 — PRESENT ERROR LOG INCLUDING
ERROR CODE AND LOCATION IF
PRESENT AND CALL FOR SERVICE

542 — RETURN ANY FAULTY MCM ASSEMBLIES

544 — STOP

FIG. 5B